

CLAIMS

That which is claimed is:

1. A method of manufacturing a sole component for an article of footwear, the method comprising steps of:
 - molding a fluid-filled bladder from a polymer material;
 - recessing a reinforcing member into the bladder; and
 - bonding the reinforcing member to the bladder.
2. The method recited in claim 1, wherein the step of molding includes selecting the polymer material to be two thermoplastic polymer sheets.
3. The method recited in claim 2, wherein the step of molding includes selecting the two thermoplastic polymer sheets to have different thicknesses.
4. The method recited in claim 3, wherein the step of molding includes stretching the two thermoplastic polymer sheets.
5. The method recited in claim 2, wherein the step of molding includes forming a first surface and a sidewall of the bladder from a first of the two thermoplastic polymer sheets.
6. The method recited in claim 5, wherein the step of molding includes forming a second surface of the bladder from a second of the two thermoplastic polymer sheets.
7. The method recited in claim 6, wherein the step of molding includes forming a peripheral bond between the two thermoplastic polymer sheets, the peripheral bond being positioned at an interface of the sidewall and the second surface.
8. The method recited in claim 1, wherein the step of molding includes selecting the polymer material to be a polymer parison.

9. The method recited in claim 1, wherein the step of molding includes forming a plurality of interior bonds that join a first surface of the bladder with a second surface of the bladder.
10. The method recited in claim 1, wherein the step of molding includes forming at least one flexion indentation in the second surface, the flexion indentation extending from a lateral side of the bladder to a medial side of the bladder.
11. The method recited in claim 10, wherein the step of molding includes forming at least one interior bond between the first surface and the flexion indentation.
12. The method recited in claim 1, wherein the step of recessing includes forming depressions in the bladder that receive the reinforcing member.
13. The method recited in claim 1, wherein the step of recessing includes forming an outwardly-facing surface of the bladder to be flush with an outwardly-facing surface of the reinforcing member.
14. The method recited in claim 1, wherein the step of recessing includes molding the polymer material around at least a portion of the reinforcing member.
15. The method recited in claim 1, wherein the step of bonding includes compressing the polymer material against the reinforcing member.
16. The method recited in claim 1, further including a step of positioning the reinforcing member within a mold prior to the step of molding.
17. The method recited in claim 1, further including a step of pressurizing an interior of the bladder to induce the polymer material to conform to a shape of a mold, and including a step of forming at least a partial vacuum between the bladder and a mold to induce the polymer material to conform to a shape of a mold.

18. The method recited in claim 1, further including a step of beveling an edge of the reinforcing member.

19. The method recited in claim 1, further including a step of forming at least one vent aperture in the reinforcing member to prevent air from being trapped between the polymer material and the reinforcing member.

20. A method of manufacturing a sole component for an article of footwear, the method comprising steps of:

positioning a reinforcing member within a mold such that a first surface of the reinforcing member contacts a cavity within the mold;

forming a bladder by drawing a polymer material against the cavity and against a second surface of the reinforcing member, the first surface being opposite the second surface;

extending the polymer material at least partially around the reinforcing member to recess the reinforcing member into the polymer material; and

bonding the polymer material to the second surface of the reinforcing member.

21. The method recited in claim 20, wherein the step of positioning includes placing the reinforcing member within a first mold portion, the mold including the first mold portion and a second mold portion that cooperatively form a cavity having a shape of the sole component.

22. The method recited in claim 20, wherein the step of forming includes selecting the polymer material to be a first polymer sheet and a second polymer sheet.

23. The method recited in claim 22, wherein the step of forming includes selecting the polymer sheets to have different thicknesses.

24. The method recited in claim 22, wherein the step of forming includes forming a first surface and a sidewall of the bladder from the first polymer sheet.

25. The method recited in claim 24, wherein the step of forming includes forming a second surface of the bladder from the second polymer sheet.

26. The method recited in claim 25, wherein the step of forming includes forming a peripheral bond between the two thermoplastic polymer sheets, the peripheral bond being positioned at an interface of the sidewall and the second surface.

27. The method recited in claim 20, wherein the step of forming includes selecting the polymer material to be a polymer parison.

28. The method recited in claim 20, wherein the step of forming includes defining at least one flexion indentation in the bladder, the flexion indentation extending from a lateral side of the bladder to a medial side of the bladder.

29. The method recited in claim 28, wherein the step of forming includes forming at least one interior bond between the first surface and the flexion indentation.

30. The method recited in claim 20, wherein the step of forming includes pressurizing an interior of the bladder to induce the polymer material to conform to a shape of a mold.

31. The method recited in claim 30, wherein the step of forming includes drawing at least a partial vacuum between the bladder and the mold to induce the polymer material to conform to a shape of a mold.

33. The method recited in claim 20, wherein the step of extending includes forming depressions in the bladder that receive the reinforcing member.

34. The method recited in claim 20, wherein the step of extending includes forming an outwardly-facing surface of the bladder to be flush with the first surface of the reinforcing member.

35. The method recited in claim 20, wherein the step of bonding includes compressing the polymer material against the second surface of the reinforcing member.

36. The method recited in claim 20, further including a step of forming at least one vent aperture in the reinforcing member to prevent air from being trapped between the polymer material and the reinforcing member.

37. The method recited in claim 20, further including a step of beveling an edge of the reinforcing member.

38. A method of manufacturing a sole component for an article of footwear, the method comprising steps of:

locating a reinforcing member within a first mold portion of a mold;

positioning a first sheet and a second sheet of polymer material between the first mold portion and a second mold portion of the mold;

drawing the first sheet against a surface of the first mold portion and against a surface of the reinforcing member to recess the reinforcing member into the first sheet and bond the reinforcing member to the first sheet;

drawing the second sheet against a surface of the second mold portion; and

forming a peripheral bond between the first sheet and the second sheet by compressing the first sheet and the second sheet between the mold portions.

39. The method recited in claim 38, further including a step of selecting the first sheet and the second sheet to have different thicknesses.

40. The method recited in claim 38, wherein the step of drawing the first sheet includes forming a first surface and a sidewall of the bladder from the first sheet.

41. The method recited in claim 40, wherein the step of drawing the second sheet includes forming a second surface of the bladder from the second sheet.

42. The method recited in claim 38, wherein the steps of drawing the first sheet and drawing the second sheet include pressurizing an interior of the bladder to induce the polymer material to conform to a shape of a mold.

43. The method recited in claim 42, wherein the steps of drawing the first sheet and drawing the second sheet include forming at least a partial vacuum between the bladder and the mold to induce the polymer material to conform to a shape of a mold.

44. The method recited in claim 38, further including a step of forming at least one vent aperture in the reinforcing member to prevent air from being trapped between the polymer material and the reinforcing member.

45. The method recited in claim 38, further including a step of beveling an edge of the reinforcing member.

46. A method of manufacturing an article of footwear, the method comprising steps of:
forming a sole component that includes a fluid-filled bladder;
defining a lasting surface extending along a medial portion and a lateral portion of the sole component, at least a portion of the bladder forming the lasting surface; and
securing an upper to the lasting surface.

47. The method recited in claim 46, wherein the step of defining includes forming a ridge that extends along at least a medial side and a lateral side of the sole component, the lasting surface extending between portions of the ridge.

48. The method recited in claim 47, wherein the step of defining includes extending the ridge around a heel region of the sole component.

49. The method recited in claim 46, wherein the step of securing includes directly securing the upper to the lasting surface.

50. A method of manufacturing a sole component for an article of footwear, the method comprising steps of:

locating a reinforcing member within a first mold portion of a mold;

positioning a first sheet and a second sheet of polymer material between the first mold portion and a second mold portion of the mold;

bending the first sheet to define a first surface and a sidewall;

drawing the first sheet against a surface of the first portion and against a surface of the reinforcing member to recess the reinforcing member into the first sheet and bond the reinforcing member to the first sheet;

drawing the second sheet against a surface of the second mold portion to define a second surface that is opposite the first surface; and

forming a peripheral bond between the sidewall and the second surface by compressing the first sheet and the second sheet between the mold portions.

51. The method recited in claim 50, further including a step of selecting the first sheet and the second sheet to have different thicknesses.

52. The method recited in claim 50, further including a step of selecting the first sheet and the second sheet to each have a uniform thickness.

53. The method recited in claim 50, wherein the steps of drawing the first sheet and drawing the second sheet include pressurizing an interior of the bladder to induce the polymer material to conform to a shape of a mold.

54. The method recited in claim 53, wherein the steps of drawing the first sheet and drawing the second sheet include forming at least a partial vacuum between the bladder and the mold to induce the polymer material to conform to a shape of a mold.

55. The method recited in claim 50, wherein the step of locating the reinforcing member includes selecting the reinforcing member to include a first portion, a second portion, and a plurality of connecting portions extending between the first portion and the second portion.

56. The method recited in claim 55, wherein the step of bending the first sheet includes positioning a bend in the first sheet at a location that corresponds with a location of the first portion of the reinforcing member.

57. A method of manufacturing a sole component for an article of footwear, the method comprising steps of:

locating a reinforcing member within a first mold portion of a mold, the reinforcing member having a first portion, a second portion, and a plurality of connecting portions extending between the first portion and the second portion;

positioning a first sheet and a second sheet of polymer material between the first mold portion and a second mold portion of the mold, the first sheet and the second sheet having different thicknesses, and the first sheet and the second sheet each having a substantially uniform thickness;

bending the first sheet to define a bend between a first surface and a sidewall, the bend being positioned in the first sheet at a location that corresponds with a location of the first portion of the reinforcing member;

drawing the first sheet against a surface of the first portion and against a surface of the reinforcing member to recess the reinforcing member into the first sheet and bond the reinforcing member to the first sheet;

drawing the second sheet against a surface of the second mold portion to define a second surface that is opposite the first surface; and

forming a peripheral bond between the sidewall and the second surface by compressing the first sheet and the second sheet between the mold portions in a location that corresponds with the second portion of the reinforcing member.

58. The method recited in claim 57, wherein the steps of drawing the first sheet and drawing the second sheet include pressurizing an interior of the bladder to induce the polymer material to conform to a shape of a mold.

59. The method recited in claim 58, wherein the steps of drawing the first sheet and drawing the second sheet include forming at least a partial vacuum between the bladder and the mold to induce the polymer material to conform to a shape of a mold.